

**Report on May 2002 collection of *Lampsilis higginsii* from the
Mississippi R. near Cassville, Wisconsin for use as brood stock for
mussel propagation at the Genoa National Fish Hatchery.**

Wisconsin Department of Natural Resources.

8 August 2003.

This is a report on the 2002 collection of female *Lampsilis higginsii* from the Mississippi River adjacent to Cassville, Wisconsin for use as brood stock for mussel propagation at the Genoa National Fish Hatchery. This mussel propagation is related to the reauthorization of the Mississippi River System Navigation project by the U. S. Army Corps of Engineers in cooperation with an associated team known as the Mussel Coordination Team.

Persons involved in the May 14, 2002 collection and 25 April scouting trip were staff from the Wisconsin Department of Natural Resources and the St. Paul District of the U. S. Army Corps of Engineers.

Collections were made at a stockpile location adjacent to A description of the collection location is as follows: UTM Zone 15 (NAD 83) coordinates easting 664725.81 northing: 4730612.25; , Twp. 3N, Rng 5W, Sec 29, SE of NE of NW, Grant County, Wisconsin, Mississippi rivermile 606.47 (see Figure 1). Water temperature was 13.5°C (56.3°F).

Figure 1. Location where *L. higginsii* were collected and relocated to near Cassville, Wisconsin in May 2002.



An April 25, 2002 scouting trip was made to the stockpile to assess if gravid *L. higginsii* were present. At that time, there was a concern that due to zebra mussel infestations, numbers of females brooding glochidia may have been lower than previous years. During this trip, a total of 7 *L. higginsii* females were collected, examined for brooding and presence of glochidia and immediately returned to the stockpile. All 7 females were found gravid.

Collections of gravid females for use in propagation and the Genoa National Fish Hatchery were made on May 14, 2002. On this date, a total of 15 living and 2 dead *L. higginsii* were collected. All of the living *L. higginsii* collected were females. Data for all specimens collected on both dates is given in Table 1.

Of the 15 females, collected on May 14, 8 were used at the Genoa National Fish Hatchery for propagation. Water temperature during the April 25th collection was 10°C and was 13.5°C during the 14 May collection.

In 2002, a total of 15 female *L. higginsii* was transported in cooler with aerated river water to the Genoa National Fish Hatchery for use in artificial propagation. These 15 mussels had never been used previously in artificial propagation. Tissue samples for future genetic analysis were taken from all but one (tag number 22) specimen during 2001 or 2002.

A total of 8 mussels were used for propagation at the Genoa National Fish Hatchery. A total of 7 *L. higginsii* (#119, 121, A33, A34, A82, A100 and Z2) were not used for propagation. On 24 May 2002, after use in the hatchery, WDNR staff returned all 15 *L. higginsii* to the Mississippi River and placed them within the Cassville stockpile location (see Figure 1).

Attached are photographs of the 15 *L. higginsii* sent to the Genoa National Fish Hatchery (Figures 2-16) as well as copies of the field data sheets (Figures 17-18).

TABLE 1. List of *L. higginsii* with tag numbers (Tagn), length & height (mm), age (years), sex (F=female, M=male) and gravidity status (Y=Yes, N=No) collected in the Mississippi River near Cassville, Wisconsin on 25 April and 14 May 2002. A total of 15 *L. higginsii* was sent to the Genoa National Fish Hatchery.

TAGN	LENGTH	HEIGHT	AGE	SEX	GRAVID	COMMENT	DATE	LIVE OR DEAD	USED AT GENOA
A190	.	.	.	F	Y	GILLS FULLY INFLATED. GLOCHIDIA MATURE.	25-Apr-02	L	
A67	.	.	.	F	Y	GILLS FULLY INFLATED. GLOCHIDIA MATURE.	25-Apr-02	L	
Z1	.	.	.	F	Y	GILLS 1/2 INFLATED. GLOCHIDIA MATURE.	25-Apr-02	L	
A49	.	.	.	F	Y	GILLS FULLY INFLATED. GLOCHIDIA MATURE.	25-Apr-02	L	
Z2	.	.	.	F	Y	GILLS 1/2 INFLATED. GLOCHIDIA MATURE.	25-Apr-02	L	
A97	.	.	.	F	Y	GILLS FULLY INFLATED. GLOCHIDIA MATURE.	25-Apr-02	L	
A65	.	.	.	F	Y	GILLS 1/2 INFLATED. GLOCHIDIA MATURE.	25-Apr-02	L	
A67	83	72	16	F		TO GENOA, PHOTO TAKEN, 2002 TISSUE TAKEN.	14-May-02	L	Y
A77	87	67	18	F		TO GENOA, PHOTO TAKEN, 2002 TISSUE TAKEN	14-May-02	L	
A34	81	71	18	F		TO GENOA, PHOTO TAKEN, 2002 TISSUE TAKEN	14-May-02	L	
A160	67	51	7	F		TO GENOA, PHOTO TAKEN, 2002 TISSUE TAKEN	14-May-02	L	Y
A123	77	63	13	F		TO GENOA, PHOTO TAKEN, 2002 TISSUE TAKEN.	14-May-02	L	Y
119	102	72	14	F		TO GENOA, PHOTO TAKEN, 2002 TISSUE TAKEN.	14-May-02	L	
A101	92	70	12	F		TO GENOA, PHOTO TAKEN, 2002 TISSUE TAKEN	14-May-02	L	Y
Z2	90	68	11	F		TO GENOA, PHOTO TAKEN.	14-May-02	L	
120	79	64	12	F		TO GENOA, PHOTO TAKEN, 2002 TISSUE TAKEN	14-May-02	L	Y
A100	100	72	14	F		TO GENOA, PHOTO TAKEN, 2001 & 2002 TISSUE TAKEN	14-May-02	L	Y
121	67	57	6	F		TO GENOA, PHOTO TAKEN, 2002 TISSUE TAKEN	14-May-02	L	
A33	92	75	15	F		TO GENOA, PHOTO TAKEN, 2002 TISSUE TAKEN	14-May-02	L	
A82	85	68	10	F		TO GENOA, PHOTO TAKEN, 2001 TISSUE TAKEN.	14-May-02	L	
A55	75	65	6	F		TO GENOA, PHOTO TAKEN, 2002 TISSUE TAKEN.	14-May-02	L	Y
A49	86	71	17	F		TO GENOA, PHOTO TAKEN, 2002 TISSUE TAKEN.	14-May-02	L	Y

**Figures 2-16. Photographs of 15 *L. higginsii* collected near
Cassville, Wisconsin on the Mississippi R. and sent to the Genoa National Fish Hatchery in
May 2002.**



L. nigginis, from Casville 2002, used at Genoa. WDMR Photo.



L. nigginis, from Casville 2002, used at Genoa. WDMR Photo.



L. nigginis, from Casville 2002, used at Genoa. WDMR Photo.



L. nigginis, from Casville 2002, used at Genoa. WDMR Photo.



L. Aggins, from Casovite 2002, used at Geos. WGNR Photo.



L. Aggins, from Casovite 2002, used at Geos. WGNR Photo.



L. Aggins, from Casovite 2002, used at Geos. WGNR Photo.



L. Aggins, from Casovite 2002, used at Geos. WGNR Photo.



L. Higgins, from Cassville 2002, used at Genoa. WDNR Photo.



L. Higgins, from Cassville 2002, used at Genoa. WDNR Photo.



L. Higgins, from Cassville 2002, used at Genoa. WDNR Photo.



L. Higgins, from Cassville 2002, used at Genoa. WDNR Photo.



L. nigra, from Cassville 2002, used at Genoa WDW Photo



L. nigra, from Cassville 2002, used at Genoa WDW Photo



L. nigra, from Cassville 2002, used at Genoa WDW Photo

Figures 17-18. Copies of 25 April 2002 and 14 May 2002 Field Data Sheets for the Collection of *L. higginsii* from the Mississippi River near Cassville, Wisconsin for Propagation at the Genoa National Fish Hatchery.

Figure 17. Field Data Sheet from 25 April 2002.

Fully collected in
50m. 17th 8/10

State of Wisconsin
Department of Natural Resources

WISCONSIN MUSSEL SURVEY FORM
Form 1700-29 8-90

VBC: 072102 sheet 1 of 1 Source Code: 01 WI

Date (mm/dd/yyyy): 04/25/02 Waterbody: WISCONSIN R. Site/Bed Name: in gravel

7.5' Quad: Quadcode: Lat: 42° 42' 37.3" N Long: 90° 59' 15.5" W.

T 2 N, R SW, S 29 of SE of 1/4 of NW Co.: Genesee Twp. R. M.: 154.2

T 2 N, R SW, S 29 of SE of 1/4 of NW Co.: Genesee USACOE R. M.:

Area Sd'ed(m²): Tran. or Stat. # 11 Sta. Dist. from Bank(m): Bank (L or R): 1 H₂O C:

Current Depth(m) SUBSTRATE: % bedrock % hardpan % boulder % rubble

% gravel % coarse sand % fine sand % muck & silt % clay % detritus

Method (circle one): 1= random pl. 2= transect 3= shore coll. 4= inventory 5= rare & assoc. 6= targeted

taxon 7= Harvest Sample 8= community rel. abund. 9= incremental coll. (by) other:

Crew (circle collector): WONR (Heath, Von Rueden?)

Directions: at 200' east of road, south of bridge, 9 quadrats located.

Comments: 2 mussels collected at each of 9 quadrats.

Div. 2002 - 1/1/02

TAXON	total # for taxon		length	height	age	sex	gravid	tag	pres	length	height	age	sex	gravid	tag	pres	
	living	dead															
A190			Gills	Full	Inflated					Mature							
A67			Gills	Full	Inflated					Mature							
A49			Gills	Full	Inflated					Mature							
A22			Gills	Full	Inflated					Mature							
A97			Gills	Full	Inflated					Mature							
A65			Gills	Full	Inflated					Mature							
Unsorted	15		15g, upland of cultured mussels														

1500 316-330 Quadrats

188-194 Genesee

(over)

Initials:

Figure 18. Field Data Sheet from 14 May 2002.

State of Wisconsin
Department of Natural Resources

Wisconsin Mussel Survey Form
Form 1700-29 8-90

July checked in
501-8-11-03

WBIC: 2601400 Sheet 1 of 1 Source Code: P1 WI

Date (mm/dd/yy): 05/14 Waterbody: St. Croix R. - Miller Site/Bed Name: Cedar Pt

7.5' Quad: 3 N, R 56, S 29 of 3 of 4 of 20 Co.: Grant Fago R. MI: Cassville - 15° C road

Lat: 42° 42' 32.3" N Long: 90° 59' 18.1" W

Area Sa. 'ed (m²): 115 Tran or Stat # 115 Sta. Dist. From Bank (m): 13.5 Bank (L or R): H2O C. 13.5 H2O

Current Depth (m): 10 SUBSTRATE: 30 %bedrock 40 %hardpan 30 %boulder 30 %rubble 10 %gravel 40 %coarse sand 10 %fine sand 10 %muck & silt 10 %clay 10 %detritus

Method (circle one): 1=random pt. 2=transect 3=shore coll. 4=inventory 5=rare & assoc. 6=targeted taxon 7=harvest sample 8=community ref. abun. 9=incremental coll. (by 115). Other: 115

Crew (circle collector): WDNR (Heath, R. & ...)

Directions: St. at 2nd & 3rd St. to ...

Comments: Dive time: 2:10
1st dive at 1:10 PM, 2nd dive at 2:10 PM
stream channel ...
bottom - 5/14, water 15°, water 17°C.

Taxon	Total # for taxon		10 genera							Photo	Glacier		2001		2002		
	Living	Dead	Length	Height	Age	Sex	Gravid	Tag	Abas.		length	height	Age	Sex	Gravid	Tag	Pres
<u>C. ...</u>	15																
			83	72	16	F		A67	Y	✓					✓		
			87	57	18	F		A71	Y	✓					✓		
			81	71	18	F		A84	Y	✓					✓		
			67	5	7	F		A80	Y	✓					✓		
			72	63	13	F		A83	Y	✓					✓		
			102	72	14	F		A89	Y	✓					✓		
			92	70	12	F		A88	Y	✓					✓		
			90	68	11	F		A82	Y	✓					✓		
			79	64	12	F		A80	Y	✓					✓		
			100	72	14	F		A88	Y	✓				Y	✓		
			67	57	6	F		A81	Y	✓					✓		
			92	75	15	F		A83	Y	✓					✓		
			85	68	12	F		A80	Y	✓				Y	✓		
			75	63	6	F		A85	Y	✓					✓		
			96	71	17	F		A89	Y	✓					✓		
<u>L. ...</u>	12	1	<u>one ... (TAGN = ?)</u>														
	1		<u>" ...</u>														

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